

**To:** Kady, Thomas[Kady.Thomas@epa.gov]  
**Cc:** jonathan.d.mcburney@lmco.com[jonathan.d.mcburney@lmco.com]; christopher.d.gussman@lmco.com[christopher.d.gussman@lmco.com]; Sprenger, Mark[Sprenger.Mark@epa.gov]; Charters, David[Charters.DavidW@epa.gov]; richard.m.leuser@lmco.com[richard.m.leuser@lmco.com]; Taylor, Kevin C[kevin.c.taylor@lmco.com]; Burchette, Sella[Burchette.Sella@epa.gov]; Greenberg, Marc[Greenberg.Marc@epa.gov]  
**From:** Henry, Richard  
**Sent:** Thur 8/13/2015 5:34:28 PM  
**Subject:** Re: FW: Water Treatment at Gold King  
cement creek CC48 N Silverton eco screen.xlsx

Tom.... just your luck! I am working on a screening eco risk assessment for a site in R3 and have their eco benchmark values right in front of me... I highlighted in yellow on the attached spreadsheet all the metals that exceed the benchmarks and it is most of them, but as you said, this is worst case. I think the long term concern would be the stuff suspended in the water column settling out in the shelter reaches or in areas of low flow. This could result in toxicity and/or smothering of the benthic critters.

In a previous life I worked for a large industry (now Honeywell) that had several big time and a few smaller metal finishing, electroplating, and printed circuit board operations. Even back then, the treatment systems were like legos - stuff was delivered in a truck and piped together to form a continuous or batch treatment system. For the smaller operations, it was already put together... just hook it to the waster stream and find a place to dump the effluent.

The key to an operation in the field is contact time and clarification.

My 2 cents.

Rich

On Thu, Aug 13, 2015 at 1:03 PM, Kady, Thomas <Kady.Thomas@epa.gov> wrote:

Jon –

R8 called for help with the Gold King incident. We need to look for small footprint treatment units that can be mounted on semis. Flow is 200 – 800 gpm. Average ~500 gpm. pH is running at 2-4 from the adit, but 6-7 in the creek. They have room for settling basins, equilibration/holding ponds, and whatnot. Need to raise pH to knockout the metals. Maybe aeration as well. What we're really looking for is a company that has the equipment, capability and experience to get up there and do their thing. We need to ID prospective vendors and vet their approach/processes. (Charge the 001 Emergency Response Work Assignment)

Attached is analytical results **taken in the creek** (not the adit discharge) just downstream of the adit shortly after the release ... so it should be a worst case. Need to knock out the Zinc

and Copper from a toxicity point of view, but iron loading will make that more difficult.

**MARK SPRENGER, DAVE CHARTERS, CHRIS GUSSMAN, RICH HENRY, MARC GREENBERG** – am I right about zinc and copper being the bad actors for aquatic life? Are there other metals in the spreadsheet we need to focus on?

Tom

**From:** Brobst, Bob  
**Sent:** Thursday, August 13, 2015 12:31 PM  
**To:** Kady, Thomas  
**Subject:** FW: Water Treatment at Gold King

Robert B. Brobst, P.E.

Senior Environmental Engineer

U.S. E.P.A. Region 8

1595 Wynkoop Street

Denver Colorado

303-312-6129 (office)

**“It is a capital mistake to theorize before one has data. Insensible one begins to twist facts to suit theories, instead of theories to suit facts.” Arthur Conan Doyle’s A Scandal in Bohemia (1891)**

**“ The Good thing about science is that it’s true whether or not you believe in it.” Neil deGrasse Tyson**

**From:** Brobst, Bob  
**Sent:** Tuesday, August 11, 2015 11:46 AM  
**To:** 'Matt Francis'; Way, Steven; Griswold, Hays  
**Subject:** RE: Water Treatment at Gold King

Matt wanted to get some prelim data on WQ at the audit – but it is taking a while to get to that data base. Marty is on it though so I hope to have it soon.

In the meantime here is some chemical data downstream in cement ck. Just upstream from Silverton at station CC48.

I will send the Adit data along as soon as I get it.

Bob

Robert B. Brobst, P.E.

Senior Environmental Engineer

U.S. E.P.A. Region 8

1595 Wynkoop Street

Denver Colorado

303-312-6129 (office)

**“It is a capital mistake to theorize before one has data. Insensible one begins to twist facts to suit theories, instead of theories to suit facts.” Arthur Conan Doyle’s A Scandal in Bohemia (1891)**

**“ The Good thing about science is that it’s true whether or not you believe in it.” Neil deGrasse Tyson**

**From:** Matt Francis [<mailto:m.francis@erllc.com>]  
**Sent:** Tuesday, August 11, 2015 10:10 AM  
**To:** Brobst, Bob; Way, Steven; Griswold, Hays  
**Subject:** Water Treatment at Gold King

These are the guys talking to us so far

<http://www.omniwatersolutions.com/>

<http://www.evoqua.com>

Matt Francis

Environmental Restoration, LLC

303.994.6611

Confidentiality Warning: This e-mail and any attachments contain information intended only for the use of the individual or entity named above. If the reader of this e-mail is not the intended recipient or the employee or agent responsible for delivering it to the intended recipient, any dissemination, publication or copying of this e-mail is strictly prohibited. Although this email has been scanned for malware, the sender does not accept any responsibility for any loss, disruption or damage to your data or computer system that may occur while using data contained in, or transmitted with, this e-mail. If you have received this e-mail in error, please immediately notify by return e-mail. Thank you.

--

Richard Henry  
US Fish and Wildlife Service  
National Technical Liaison  
Environmental Response Team  
2890 Woodbridge Ave  
Edison, NJ 08837  
Office: 732-906-6987  
Mobil: 973-204-5825